



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/806,343	03/29/2001	Brino Duchenne	L7307.01106	8527

7590 02/11/2003

Stevens Davis Miller & Mosher
1615 L Street NW Suite 850
Washington, DC 20036

EXAMINER

NGUYEN, TU T

ART UNIT PAPER NUMBER

2877

DATE MAILED: 02/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/806,343

Applicant(s)

DUCHENNE ET AL.

Examiner

Tu T Nguyen

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5,6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Detailed Office Action

Election/Restriction

Applicant's election with traverse of group I (claims 1-9) in Paper No. 8 is acknowledged. The traversal is on the ground(s) that no burdensome search would be required to examine the claim. This is not found persuasive because claim 10 is directed to different species for determining the value of a characteristic parameter or the basis of the different values for the characteristic. Further, Applicant argues about separating patents would result in inconvenience to the public is also not persuasive because claim 10 is a dependent of claim 1. Applicant does not need to cancel claim 10 or file a separate application if claim 1 is allowable.

The requirement is still deemed proper and is therefore made FINAL.

Specification

1) This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

2) The following guidelines illustrate the preferred layout and content for patent applications. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

The following order or arrangement is preferred in framing the specification and, except for the reference to the drawings, each of the lettered items should appear in upper case, without underling or bold type, as section headings. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) Title of the Invention.
- (b) Cross-Reference to Related Applications.
- (c) Statement Regarding Federally Sponsored Research or Development.
- (d) Reference to a "Sequence Listing," a table, or a computer program listing appendix submitted on compact disc (see 37 CFR 1.52(e)(5)).
- (e) Background of the Invention.
 - 1. Field of the Invention.
 - 2. Description of the Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) Brief Summary of the Invention.
- (g) Brief Description of the Several Views of the Drawing(s).
- (h) Detailed Description of the Invention.
- (i) Claim or Claims (commencing on a separate sheet).
- (j) Abstract of the Disclosure (commencing on a separate sheet).
- (k) Drawings.
- (l) Sequence Listing, if on paper (see 37 CFR 1.821-1.825).

Claim Objections

Claims 1 are objected to because of the following informalities:

Claim 1, line 6, “an electromagnetic pulse” should be corrected to “the electromagnetic pulse”.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1) Claim 1, lines 11-12, “the term characterized in that it includes in addition at least one optical cavity” is not clear. What does Applicant mean “it” . Applicant means the optical fiber or the generator?

2) Claim 1, lines 16-26, the term “which has an input provided ... incident electromagnetic pulse” is not clear. It is not clear the set up of the first and the second mirrors and how to convert a single pulse into a variable geometry characteristics beam.

3) claims 2-4 are not clear. It is not clear how the two lengths of optical fiber

connected to the system and it is not clear about the location of the two lengths fiber.

4) Claim 8, line 15, the term "specified under claim 1" is not clear. It is not clear claim 8 is an independent claim or a dependent claim which depended to claim 1.

Claim 9 is rejected as being depended on the rejected claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2,7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen (Applied Optics, June 1975, volume 14, No. 6).

With respect to claim 1, Cohen discloses a device for emitting electromagnetic pulses (see abstract and page 1351, column 2, second paragraph, lines 1-3). The device comprises: a generator for generating at least one electromagnetic pulse (see "pulsed GaAs injection laser"), at least one optical fiber (see "fiber" and Figure 1(a)) for transmitting the electromagnetic pulse generated by the generator for the emission thereof, at least one optical cavity (see "partially transparent end mirrors" and Figure 1) which is provided on the path of an electromagnetic incident pulse transmitted by the optical fiber (see Figure 1(a)) comprising a

first partially reflecting mirror and a second partially reflecting mirror (see "partially transparent mirrors pressed in contact with the input and output ends of the fiber"), said first and second mirrors being arranged such that they generate, from a single electromagnetic incident pulse, a train of emitted electromagnetic pulses at the output of said optical cavity (see page 1351, column 2, second paragraph and "shuttle pulse train" in Figure 3(a)), the geometric extent features of said train being variable, and related to said electromagnetic incident pulse (the conditions for propagation of a light wave in an optical fiber vary depending on the length of the fiber, according to the theory [S.D. Personick, Bell Syst. Tech. J. 50, 843, (1971)] cited on page 10, line 1 of the present application. Therefore, the various pulses of the pulse train, emitted by the device in Figure 1(a), have variable geometric extent emission features, see also page 1352, column 2, lines 11-18 and Figure 3(b)).

With respect to claim 2, Cohen discloses two mirrors are linked directly to a fiber (fig 1a).

With respect to claim 7, Cohen discloses generating at least two pulses of different wavelengths (page 1353, column 2).

Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen (Applied Optics, June 1975, volume 14, No. 6) in view of Ocenasek (EP 0 184 432).

With respect to claim 3, Cohen does not explicitly disclose optical coupling means

connected to two lengths fiber. Ocenasek discloses a coupling means 14,15 (fig 1) for coupling two segments of the fiber 11, 16 (fig 1). It would have been obvious to modify Cohen with Ocenasek's optical coupling means for utilizing the connection.

With respect to claim 4, Ocenasek discloses coupling means comprising two lenses 14, 15 (fig 1). However, Ocenasek does not disclose placing a mirror between the lenses. It would have been obvious a design choice to modify Cohen's device by placing the Cohen's mirror (fig 1a) between the lenses to control the output light better.

With respect to claim 5, Ocenasek discloses a graded-index lens (abstract).

Claims 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen (Applied Optics, June 1975, volume 14, No. 6) in view of Ocenasek (EP 0 184 432) in further view of Jean (FR 2 622 979).

With respect to claim 6, Cohen in view of Ocenasek do not disclose a means for preventing the returning pulse. Jean discloses a screen 3 (fig 1) for preventing the return pulse. It would have been obvious to modify Cohen with Jean's screen for preventing the return pulse from the generator to reduce the system noise.

Claims 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Philipp (4,497,575).

With respect to claim 8, Philipp discloses a test system for determining the

characteristic of an optical fiber. The system comprises: an optical source 10 (fig 1), a detector (column 1, lines 55-60), a storage (column 2, lines 25-30) and data processing means 14 (fig 1). Philipp does not explicitly disclose measuring a loss of the optical fiber. However, using an OTDR as disclosed in Philipp for determining the loss of an optical fiber would have been known. It would have been obvious a design choice to modify Philipp's system for measuring the loss of the optical fiber. The modification involves only routine skill in the art.

Claims 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Philipp (4,497,575) in view of Cohen (Applied Optics, June 1975, volume 14, No. 6).

With respect to claim 9, Philipp does not disclose an optical fiber for emitting at least two characteristics. Cohen discloses a fiber for emitting at least two characteristics (fig 1). It would have been obvious to modify Philipp with Cohen's emitting system to make the system more accurate. Further Cohen does not explicitly disclose the characteristics of the beam are the core diameter and the numerical aperture. Since Cohen discloses emitting a laser beam with a plurality of characteristics, it would have been obvious that Cohen's system can be modified to emit the beam having the characteristics as claimed to utilize the testing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu T Nguyen whose telephone number is (703) 306-9185. The examiner can normally be reached on M-T 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Frank G Font can be reached on (703) 308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink, appearing to read 'Tuan Nguyen', with a long horizontal flourish extending to the right.

Tu Tuan Nguyen

Patent Examiner TC 2877

2/8/03